ABSTRACT

A signal flow driven circuit analysis and partition technique are provided for mixed signal circuit performance optimization, yield enhancement and layout optimization. The inventive device includes automatic partition of mixed signal integrated circuits based on functional blocks, automatic identification of critical signal path in analog/RF circuits, automatic identification of fundamental unit circuits, automatic identification of matching and symmetry requirement. Circuit partition automatically partitions a mixed signal circuit into blocks based on their functionality. Identification of signal flow is achieved by automatically tracing the signal flow and identifies the critical path based a set of rules. Various building blocks of known characteristics and optimization requirement can also be automatically obtained. By tracing the signal path, matching and symmetry requirement and parasitic loading requirement at critical circuit nodes can also be automatically generated.